

0590
0403

#2



RAW SEQUENCE LISTING

DATE: 06/06/2002

PATENT APPLICATION: US/10/022,609

TIME: 16:17:41

Input Set : N:\Cr3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: Vandlen, Richard L.
6 Holmes, William E.
8 (ii) TITLE OF INVENTION: Structure, Production and Use of
9 Heregulin 2 Ligands

11 (iii) NUMBER OF SEQUENCES: 17

13 (iv) CORRESPONDENCE ADDRESS:

14 (A) ADDRESSEE: Genentech, Inc.
15 (B) STREET: 460 Point San Bruno Blvd
16 (C) CITY: South San Francisco
17 (D) STATE: California
18 (E) COUNTRY: USA
19 (F) ZIP: 94080

21 (v) COMPUTER READABLE FORM:

22 (A) MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
23 (B) COMPUTER: IBM PC compatible
24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
25 (D) SOFTWARE: patin (Genentech)

27 (vi) CURRENT APPLICATION DATA:

C--> 28 (A) APPLICATION NUMBER: US/10/022,609
C--> 29 (B) FILING DATE: 17-Dec-2001
30 (C) CLASSIFICATION:

44 (vii) PRIOR APPLICATION DATA:

33 (A) APPLICATION NUMBER: US/08/440,401
34 (B) FILING DATE: 12-MAY-1995
37 (A) APPLICATION NUMBER: 08/330161
38 (B) FILING DATE: 25-OCT-1994
41 (A) APPLICATION NUMBER: 08/035430
42 (B) FILING DATE: 22-MAR-1993
45 (A) APPLICATION NUMBER: 07/705256
46 (B) FILING DATE: 24-MAY-1991

48 (viii) ATTORNEY/AGENT INFORMATION:

49 (A) NAME: Lee, Wendy M.
50 (B) REGISTRATION NUMBER: 00,000
51 (C) REFERENCE/DOCKET NUMBER: 712C3

53 (ix) TELECOMMUNICATION INFORMATION:

54 (A) TELEPHONE: 415/225-1994
55 (B) TELEFAX: 415/952-9881
56 (C) TELEX: 910/371-7168

58 (2) INFORMATION FOR SEQ ID NO: 1:

60 (i) SEQUENCE CHARACTERISTICS:
61 (A) LENGTH: 6 bases

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002

TIME: 16:17:41

Input Set : N:\Crif3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

```

62         (B) TYPE: nucleic acid
63         (C) STRANDEDNESS: single
64         (D) TOPOLOGY: linear
66         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
69  CNCAAT 6
73 (2) INFORMATION FOR SEQ ID NO: 2:
75         (i) SEQUENCE CHARACTERISTICS:
76             (A) LENGTH: 6 bases
77             (B) TYPE: nucleic acid
78             (C) STRANDEDNESS: single
79             (D) TOPOLOGY: linear
81         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
84  AATAAA 6
88 (2) INFORMATION FOR SEQ ID NO: 3:
90         (i) SEQUENCE CHARACTERISTICS:
91             (A) LENGTH: 24 amino acids
92             (B) TYPE: amino acid
93             (D) TOPOLOGY: linear
95         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
W--> 97  Ala Ala Glu Lys Glu Lys Thr Phe Cys Val Asn Gly Gly Glu Xaa
98      1      5      10      15
W--> 100 Phe Met Val Lys Asp Leu Xaa Asn Pro
101      20      24
103 (2) INFORMATION FOR SEQ ID NO: 4:
105         (i) SEQUENCE CHARACTERISTICS:
106             (A) LENGTH: 21 amino acids
107             (B) TYPE: amino acid
108             (D) TOPOLOGY: linear
110         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
W--> 112 Xaa Glu Xaa Lys Glu Gly Arg Gly Lys Gly Lys Gly Lys Lys Lys
113      1      5      10      15
W--> 115 Glu Xaa Gly Xaa Gly Lys
116      20      21
118 (2) INFORMATION FOR SEQ ID NO: 5:
120         (i) SEQUENCE CHARACTERISTICS:
121             (A) LENGTH: 13 amino acids
122             (B) TYPE: amino acid
123             (D) TOPOLOGY: linear
125         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
W--> 127 Ala Glu Lys Glu Lys Thr Phe Xaa Val Asn Gly Gly Glu
128      1      5      10      13
130 (2) INFORMATION FOR SEQ ID NO: 6:
132         (i) SEQUENCE CHARACTERISTICS:
133             (A) LENGTH: 42 bases
134             (B) TYPE: nucleic acid
135             (C) STRANDEDNESS: single
136             (D) TOPOLOGY: linear
138         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
141  GCTGAGAAGG AGAAGACCTT CTGTCGTGAA TCGGACGGCG AG 42

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002

TIME: 16:17:41

Input Set : N:\Crif3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

145 (2) INFORMATION FOR SEQ ID NO: 7:
 147 (i) SEQUENCE CHARACTERISTICS:
 148 (A) LENGTH: 29 amino acids
 149 (B) TYPE: amino acid
 150 (D) TOPOLOGY: linear
 152 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
 W--> 154 Leu Xaa Arg Gln Pro Lys Tyr Pro Arg Lys Ser Ala Pro Arg Arg
 155 1 5 10 15
 157 Asn Lys Leu Asp His Tyr Ala Ile Ile Lys Phe Pro Leu Thr
 158 20 25 29

160 (2) INFORMATION FOR SEQ ID NO: 8:
 162 (i) SEQUENCE CHARACTERISTICS:
 163 (A) LENGTH: 47 bases
 164 (B) TYPE: nucleic acid
 165 (C) STRANDEDNESS: single
 166 (D) TOPOLOGY: linear
 168 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
 171 CGGCAGCCCA AGTACCCNG GAAGTCCGCC CCCNGGNGGA ACAAGCT 47

175 (2) INFORMATION FOR SEQ ID NO: 9:
 177 (i) SEQUENCE CHARACTERISTICS:
 178 (A) LENGTH: 41 bases
 179 (B) TYPE: nucleic acid
 180 (C) STRANDEDNESS: single
 181 (D) TOPOLOGY: linear
 183 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
 186 CCTTGTTTCA NCTGGTGATA CGGTAGTAGT TGAAGGGGGA C 41

190 (2) INFORMATION FOR SEQ ID NO: 10:
 192 (i) SEQUENCE CHARACTERISTICS:
 193 (A) LENGTH: 2010 bases
 194 (B) TYPE: nucleic acid
 195 (C) STRANDEDNESS: single
 196 (D) TOPOLOGY: linear
 198 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
 201 GG GCG CGA GCG CCT CAG CGC GGC CGC TCG CTC TCC CCC 38
 202 Ala Arg Ala Pro Gln Arg Gly Arg Ser Leu Ser Pro
 203 1 5 10
 205 TCG AGG GAC AAA CTT TTC CCA AAC CCG ATC CGA GCC CTT 77
 206 Ser Arg Asp Lys Leu Phe Pro Asn Pro Ile Arg Ala Leu
 207 15 20 25
 209 GGA CCA AAC TCG CCT GCG CCG AGA GCC GTC CGC GTA GAG 116
 210 Gly Pro Asn Ser Pro Ala Pro Arg Ala Val Arg Val Glu
 211 30 35
 213 CGC TCC GTC TCC GGC GAG ATG TCC GAG CGC AAA GAA GGC 155
 214 Arg Ser Val Ser Gly Glu Met Ser Glu Arg Lys Glu Gly
 215 40 45 50
 217 AGA GGC AAA GGG AAG GGC AAG AAG AAG GAG CGA GGC TCC 194
 218 Arg Gly Lys Gly Lys Gly Lys Lys Lys Glu Arg Gly Ser
 219 55 60
 221 GGC AAG AAG CCG GAG TCC GCG GCG GGC AGC CAG AGC CCA 233

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002

TIME: 16:17:41

Input Set : N:\Crif3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

```

222 Gly Lys Lys Pro Glu Ser Ala Ala Gly Ser Gln Ser Pro
223   65                               70                               75
225 GCC TTG CCT CCC CGA TTG AAA GAG ATG AAA AGC CAG GAA 272
226 Ala Leu Pro Pro Arg Leu Lys Glu Met Lys Ser Gln Glu
227   80                               85                               90
229 TCG GCT GCA GGT TCC AAA CTA GTC CTT CGG TGT GAA ACC 311
230 Ser Ala Ala Gly Ser Lys Leu Val Leu Arg Cys Glu Thr
231   95                               100
233 AGT TCT GAA TAC TCC TCT CTC AGA TTC AAG TGG TTC AAG 350
234 Ser Ser Glu Tyr Ser Ser Leu Arg Phe Lys Trp Phe Lys
235  105                               110                               115
237 AAT GGG AAT GAA TTG AAT CGA AAA AAC AAA CCA CAA AAT 389
238 Asn Gly Asn Glu Leu Asn Arg Lys Asn Lys Pro Gln Asn
239  120                               125
241 ATC AAG ATA CAA AAA AAG CCA GGG AAG TCA GAA CTT CGC 428
242 Ile Lys Ile Gln Lys Lys Pro Gly Lys Ser Glu Leu Arg
243  130                               135                               140
245 ATT AAC AAA GCA TCA CTG GCT GAT TCT GGA GAG TAT ATG 467
246 Ile Asn Lys Ala Ser Leu Ala Asp Ser Gly Glu Tyr Met
247  145                               150                               155
249 TGC AAA GTG ATC AGC AAA TTA GGA AAT GAC AGT GCC TCT 506
250 Cys Lys Val Ile Ser Lys Leu Gly Asn Asp Ser Ala Ser
251  160                               165
253 GCC AAT ATC ACC ATC GTG GAA TCA AAC GAG ATC ATC ACT 545
254 Ala Asn Ile Thr Ile Val Glu Ser Asn Glu Ile Ile Thr
255  170                               175                               180
257 GGT ATG CCA GCC TCA ACT GAA GGA GCA TAT GTG TCT TCA 584
258 Gly Met Pro Ala Ser Thr Glu Gly Ala Tyr Val Ser Ser
259  185                               190
261 GAG TCT CCC ATT AGA ATA TCA GTA TCC ACA GAA GGA GCA 623
262 Glu Ser Pro Ile Arg Ile Ser Val Ser Thr Glu Gly Ala
263  195                               200                               205
265 AAT ACT TCT TCA TCT ACA TCT ACA TCC ACC ACT GGG ACA 662
266 Asn Thr Ser Ser Ser Thr Ser Thr Ser Thr Thr Gly Thr
267  210                               215                               220
269 AGC CAT CTT GTA AAA TGT GCG GAG AAG GAG AAA ACT TTC 701
270 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe
271  225                               230
273 TGT GTG AAT GGA GGG GAG TGC TTC ATG GTG AAA GAC CTT 740
274 Cys Val Asn Gly Gly Glu Cys Phe Met Val Lys Asp Leu
275  235                               240                               245
277 TCA AAC CCC TCG AGA TAC TTG TGC AAG TGC CAA CCT GGA 779
278 Ser Asn Pro Ser Arg Tyr Leu Cys Lys Cys Gln Pro Gly
279  250                               255
281 TTC ACT GGA GCA AGA TGT ACT GAG AAT GTG CCC ATG AAA 818
282 Phe Thr Gly Ala Arg Cys Thr Glu Asn Val Pro Met Lys
283  260                               265                               270
285 GTC CAA AAC CAA GAA AAG GCG GAG GAG CTG TAC CAG AAG 857
286 Val Gln Asn Gln Glu Lys Ala Glu Glu Leu Tyr Gln Lys

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002

TIME: 16:17:41

Input Set : N:\Crf3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

```

287          275          280          285
289 AGA GTG CTG ACC ATA ACC GGC ATC TGC ATC GCC CTC CTT 896
290 Arg Val Leu Thr Ile Thr Gly Ile Cys Ile Ala Leu Leu
291          290          295
293 GTG GTC GGC ATC ATG TGT GTG GTG GCC TAC TGC AAA ACC 935
294 Val Val Gly Ile Met Cys Val Val Ala Tyr Cys Lys Thr
295          300          305          310
297 AAG AAA CAG CGG AAA AAG CTG CAT GAC CGT CTT CGG CAG 974
298 Lys Lys Gln Arg Lys Lys Leu His Asp Arg Leu Arg Gln
299          315          320
301 AGC CTT CGG TCT GAA CGA AAC AAT ATG ATG AAC ATT GCC 1013
302 Ser Leu Arg Ser Glu Arg Asn Asn Met Met Asn Ile Ala
303 325          330          335
305 AAT GGG CCT CAC CAT CCT AAC CCA CCC CCC GAG AAT GTC 1052
306 Asn Gly Pro His His Pro Asn Pro Pro Pro Glu Asn Val
307          340          345          350
309 CAG CTG GTG AAT CAA TAC GTA TCT AAA AAC GTC ATC TCC 1091
310 Gln Leu Val Asn Gln Tyr Val Ser Lys Asn Val Ile Ser
311          355          360
313 AGT GAG CAT ATT GTT GAG AGA GAA GCA GAG ACA TCC TTT 1130
314 Ser Glu His Ile Val Glu Arg Glu Ala Glu Thr Ser Phe
315          365          370          375
317 TCC ACC AGT CAC TAT ACT TCC ACA GCC CAT CAC TCC ACT 1169
318 Ser Thr Ser His Tyr Thr Ser Thr Ala His His Ser Thr
319          380          385
321 ACT GTC ACC CAG ACT CCT AGC CAC AGC TGG AGC AAC GGA 1208
322 Thr Val Thr Gln Thr Pro Ser His Ser Trp Ser Asn Gly
323 390          395          400
325 CAC ACT GAA AGC ATC CTT TCC GAA AGC CAC TCT GTA ATC 1247
326 His Thr Glu Ser Ile Leu Ser Glu Ser His Ser Val Ile
327          405          410          415
329 GTG ATG TCA TCC GTA GAA AAC AGT AGG CAC AGC AGC CCA 1286
330 Val Met Ser Ser Val Glu Asn Ser Arg His Ser Ser Pro
331          420          425
333 ACT GGG GGC CCA AGA GGA CGT CTT AAT GGC ACA GGA GGC 1325
334 Thr Gly Gly Pro Arg Gly Arg Leu Asn Gly Thr Gly Gly
335          430          435          440
337 CCT CGT GAA TGT AAC AGC TTC CTC AGG CAT GCC AGA GAA 1364
338 Pro Arg Glu Cys Asn Ser Phe Leu Arg His Ala Arg Glu
339          445          450
341 ACC CCT GAT TCC TAC CGA GAC TCT CCT CAT AGT GAA AGG 1403
342 Thr Pro Asp Ser Tyr Arg Asp Ser Pro His Ser Glu Arg
343 455          460          465
345 TAT GTG TCA GCC ATG ACC ACC CCG GCT CGT ATG TCA CCT 1442
346 Tyr Val Ser Ala Met Thr Thr Pro Ala Arg Met Ser Pro
347          470          475          480
349 GTA GAT TTC CAC ACG CCA AGC TCC CCC AAA TCG CCC CCT 1481
350 Val Asp Phe His Thr Pro Ser Ser Pro Lys Ser Pro Pro
351          485          490

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002
TIME: 16:17:42

Input Set : N:\Crf3\RULE60\10022609.raw
Output Set: N:\CRF3\06062002\J022609.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 2
Seq#:3; Xaa Pos.15,22
Seq#:4; Xaa Pos.1,3,17,19
Seq#:5; Xaa Pos.8
Seq#:7; Xaa Pos.2
Seq#:8; N Pos. 19,34,37
Seq#:9; N Pos. 11

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/022,609

DATE: 06/06/2002

TIME: 16:17:42

Input Set : N:\CrF3\RULE60\10022609.raw

Output Set: N:\CRF3\06062002\J022609.raw

L:28 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:29 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:97 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0

L:100 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:15

L:112 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0

L:115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:15

L:127 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0

L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0